



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

D212-664-101
Job Sheet 174840



3738

Part No: D212-664-101

Job Qty: 1 ea

Part Name: Fwd Crosstube - High



Part Weight: 0 lbs

Status: Scheduled

Priority: Medium

Job Created: 3/22/18

Job Tracking No:

Due Date: 3/30/18

Created By: Marie Lajeunesse

Type: Stock

Description:

Note: DWG REV E IPP Rev:E 04.02.16 Reformat KJ/DS IPP Rev:F 06-03-29 Remove Comments on Pick List JLM IPP
Rev:G 07-04-30 As per Rev C JLM IPP Rev:H 11.04.26 inspection strip ecn 11-549 EC verf by:DD IPP REV:I
14.05.27 AS PER ECN 14-570 DD VERF:JLM

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup hrs	Run Hrs	Workcenter / Supplier	Lead Time	
90	Start up Operation	1 Ea	3/29/18	3/29/18	0.00	0.00	Start Up Stores/Pkg-1		GP
110	Packaging	1 pcs	3/29/18	3/29/18	0.00	0.00	Packaging1-3		GP
120	CNC Bend Crosstubes	1 pcs	3/29/18	3/29/18	3.11	2.22	CNC Bend Crosstube		GP
130	QC	1 pcs	3/29/18	3/29/18	0.00	0.00	QC15		GP
140	Crosstubes	1 pcs	3/29/18	3/29/18	0.00	0.67	Crosstubes-1		GP
150	HandFXtube	1 pcs	3/29/18	3/29/18	0.00	0.98	HandFinish5		GP
160	QC	1 pcs	3/29/18	3/29/18	0.00	0.00	QC7-1		
165	QC	1 pcs	3/29/18	3/29/18	0.00	0.00	QC5		
170	Outsource	1 pcs	3/29/18	3/29/18			SKY002-VC	P10:39922 1x	MAY 21 2018
180	Packaging	1 pcs	3/29/18	3/29/18	0.00	0.00	Packaging2		APR 25 2018
190	QC	1 pcs	3/29/18	3/29/18	0.00	0.00	QC5		38
200	SprayPaint	1 pcs	3/29/18	3/29/18	0.00	0.25	Spray Paint		MAY 29 2018
210	QC	1 pcs	3/29/18	3/29/18	0.00	0.00	QC14		
220	Crosstubes	1 pcs	3/30/18	3/30/18	0.00	1.69	Crosstubes-1		JUN 03 2018
230	QC	1 pcs	3/30/18	3/30/18	0.00	0.00	QC5	DAS	JUN 06 2018
240	Packaging	1 pcs	3/30/18	3/30/18	0.00	0.00	Packaging1-3	6	JUN 07 2018
250	QC	1 pcs	3/30/18	3/30/18	0.00	0.00	QC4	9-89	
255	DC	1 pcs	3/30/18	3/30/18	0.00	0.00	DC		
260	Packaging	1 pcs	3/30/18	3/30/18	0.00	0.00	Packaging3		
270	QC21-FG	1 Ea	3/30/18	3/30/18	0.00	0.00	QC21		21 JUN 20 2018

F9035

Part Op 120 - Bend tube as per Dwg D212-664-141 using CNC bender program 212-fw and Folio D212-664-101
Descriptions: 140 - "1-Drill pilot holes in tube as per Dwg D212-664-141 using drill Jig DT8548 & DT8549,using drill table DT8577, set-up towers in hole #7 as per QSI 10 2-Ream hole to finish size in tube as per Dwg D212-664-141 using drill Jig DT8548 & DT8549. Check dimensions between holes, both sides on both cuffs, to ensure alignment with saddle holes. 3-Scribe part # and batch # using vibrating stylus as per Dwg D212-664-141 4-*** WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE*** Deburr & Inspect for surface damage. Repair damage within limits as per Dwg D212-664-141"
150 - ***IMMEDIATELY AFTER GRINDING***
170 - *** WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE*** Liquid Penetrant Inspection as per QSI 038 LPI as per ASTM 1417 Level 2 Attach copy of NDT results to work order
180 - Ensure copy of NDT results attached to work order.
190 - *** WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE*** Inspect for damage & ensure results are as per Dwg D212-664-141
200 - *** WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE*** 1-Prime inside & outside crosstube as per QSI 005 4.2 BATCH: 13847 2- After painting remove masking and apply matte clear coat per QSI005 4.2 3- MASK

UNDERSIDE OF CROSSTUBE AS SHOWN ON DWG BEFORE PAINTING 4 -Paint Outside of Tube as per Dart QSI 005
4.2 *clear 138832 Paint 138863*
210 - Then,Wrap in plastic bag to protect from scratches
220 - *****LAY DOWN CROSSTUBE ON TABLE AND PUT DT10302 PINS IN SADDLE HOLE FACING UP, USE HOLE IN TAPE MESURE TO PUT IN PINS FOR LOCATING CENTER OF CROSSTUBE. ***** 1- Abrade mating surfaces of support and crosstube with 180 grit sandpaper, clean the area with MEK or equivalent as per dwg 2- Install supports with Proseal 890 per D212-664-141 and QSI 015 A/R Proseal 890 Batch: *138784* EXP: *9/18*
PROSEAL CURE TIME 72 HOURS: Start: *18-6-3* Finish: *18-6-6* 3- Install clamps with rubber cushion (ENSURE CLAMPS ARE INSTALL ON TOP SIDE OF CROSSTUBE) using DT9565 as per Dwg D212-664-141. ***Torque all clamps to 80-100 IN-LBS.***
230 - ***RE-CHECK TORCQUE ON CLAMP AFTER PROSEAL HAS CURED FOR 72HOURS AS PER DWG.***
250 - ***VERIFY BY _____ BATCH # TO MATCH W/O _____
255 - Photocopy bluefile and create labels as per PPP D212-664-101 CHG006
260 - Identify and pack for shipping as per PPP D212-664-101 Location : FG094

Job BOM				
Part / Item	Component Name	Quantity	Operation	Container
D212-664-101TRN	Crosstube Turning Detail	1 Ea (1 ea)	90-Start up Operation	
AN6-35A	Bolt	4 Ea (4 ea)	240-Packaging	
AN6-36A	Bolt	4 Ea (4 ea)	240-Packaging	
D3428-1	Placard	1 Ea (1 ea)	240-Packaging	
MS21042L6	Nut	6 Ea (6 ea)	240-Packaging	
NAS1149D0663J	Washer	18 Ea (18 ea)	240-Packaging	

Job Allocations				
Operation	Component Part	Required	Inventory	Allocated
90-Start up Operation <i>5034 672</i>	D212-664-101TRN	1	8	0
240-Packaging	AN6-35A	4	71	0
	AN6-36A	4	89	0
	D3428-1	1	30	0
	MS21042L6	6	438	0
<i>crosstube</i>	NAS1149D0663J	18	1,453	0
	<i>D2892-1 5077238</i>	<i>②</i>		
	<i>MS21920-35 5062617</i>	<i>①</i>		
		<i>② 5068660</i>		

Part Specifications
D3595-063-450 5062608 ④
Specifications could not be found.

Plex 3/22/18 9:42 AM Dart.lajeunesse.marie

Dart Aerospace Ltd.
1270 Aberdeen Street
Hewitsonburg, ON K6A 1K7
CANADA
TEL.: 1 813 852-8200
Email: sales@dartaero.com
www.dartaerospace.com

DART
AEROSPACE

Container No: S057222

Part: D212-664-101

Job No: 174840

Serial No/Batch: S057222

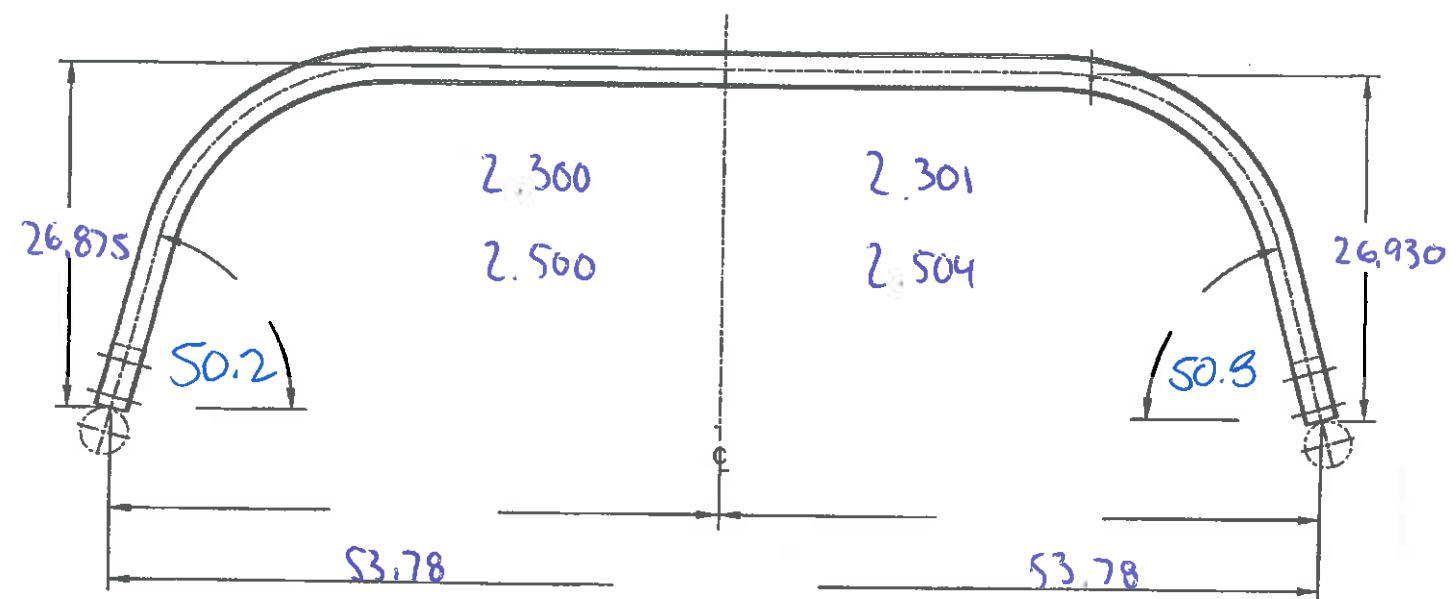
Revision:

Inspector:

Date: 04/02/18

DART AEROSPACE LTD		Work Order: 174840
Description: Crosstube High Fwd (205/212/412)		Part Number: D212-664-101
Inspection Dwg: D212-664-141	Rev: E	Page 1 of 1

Required Dimension	Min	Max
Height	26.67	27.17
1/2 Span	53.59	53.85
Angle	49	52
Total Span	107.18	107.7
Bending Passes	3	--
Crushing	--	7.2%



	Side A	Side B
Bending Passes	5	5
Crushing	4.2%	4.2%
Comments		

QC15 Inspection	JW
Date	18-04-02

Rev	Date	Change	Revised by	Approved
A	07.02.06	New Issue	KJ/JM	
B	08.04.21	Dwg Rev updated	KJ/JM	
C	10.04.01	Dwg Rev updated	KJ	
D	12.04.16	Added bending, crushing dimensions	KJ	
E	14.07.28	Revised max crushing %	KJ	
F	16.01.15	Revised Height min/max dimensions	KJ	

Item	Qty -141	Qty -141B	Qty -141F	Part Number	Description
1	X			D212-864-141	CROSSTUBE ASSEMBLY (205/212/412 HIGH FWD)
2		X		D212-864-141B	CROSSTUBE ASSEMBLY (214 HIGH FWD)
3			X	D212-864-141F	CROSSTUBE ASSEMBLY (205/212/412 HIGH FWD) (ANODIZED)
4	1	1	1	D6005-128	CROSSTUBE
5	2		2	D2883-1	SUPPORT
6	4	4	4	D3595-063-450	RUBBER CUSHION
7		2		D6017-1	SUPPORT
8	4	4	4	MS21920-25	CLAMP (OR MS21920-26)
9	AR	AR	AR	PROSEAL 880 B-2	SEALANT, AMS-S-8802 CLASS B-2

GENERAL NOTES:

- 1) MATERIAL: MANUFACTURED FROM D6005-128
FINISHED LENGTH = 128.614±0.028
- 2) FINISH -141 & -141B: a) CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
b) PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2
c) MASK UNDERSIDE OF CROSSTUBE AS SHOWN (ZN C8-2 / C8-3, HATCHED AREA)
d) PAINT OUTSIDE PER DART QSI 005 4.2
e) REMOVE MASKING AND APPLY MATTE CLEAR COAT
f) ANODIZE PER MIL-A-8625, TYPE II, CLASS 1.
g) ALODINE (DO NOT ETCH) PER QSI 005 4.1.2
h) PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2
i) MASK UNDERSIDE OF CROSSTUBE AS SHOWN (ZN C8-2 / C8-3, HATCHED AREA)
j) PAINT OUTSIDE PER DART QSI 005 4.2
k) REMOVE MASKING AND APPLY MATTE CLEAR COAT

FINISH -141F:

- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.
- 4) BREAK SHARP EDGES: 0.005 TO 0.010 MAX.
- 5) IDENTIFICATION: SCRIBE DART PART NUMBER "D212-864-XXX" AND BATCH NUMBER ON INSIDE OF CUFF USING VIBRATING STYLUS
- 6) WEIGHT: D212-864-141/-141B/-141F = 33.8 lbs
- 7) PART IS SYMMETRIC ABOUT CENTERLINE.
- 8) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.

MACHINING

- 10) RUN CUTTER OFF PART. BLEND OUT EDGE LONGITUDINALLY. TRANSITION SHOULD BE SMOOTH.
- 11) BENDING
BEND PROGRESSIVELY WITH A MINIMUM OF 3 PASSES. MAXIMUM TUBE FLATTENING DUE TO BENDING IS 7.2% (BASED ON O.D.) IN LOWER HALF OF R35.5 BEND AND 6% (BASED ON O.D.) ON REMAINING TUBE.
- 12) LIQUID PENETRANT INSPECT OUTSIDE SURFACE OF CROSSTUBE PER QSI 038.

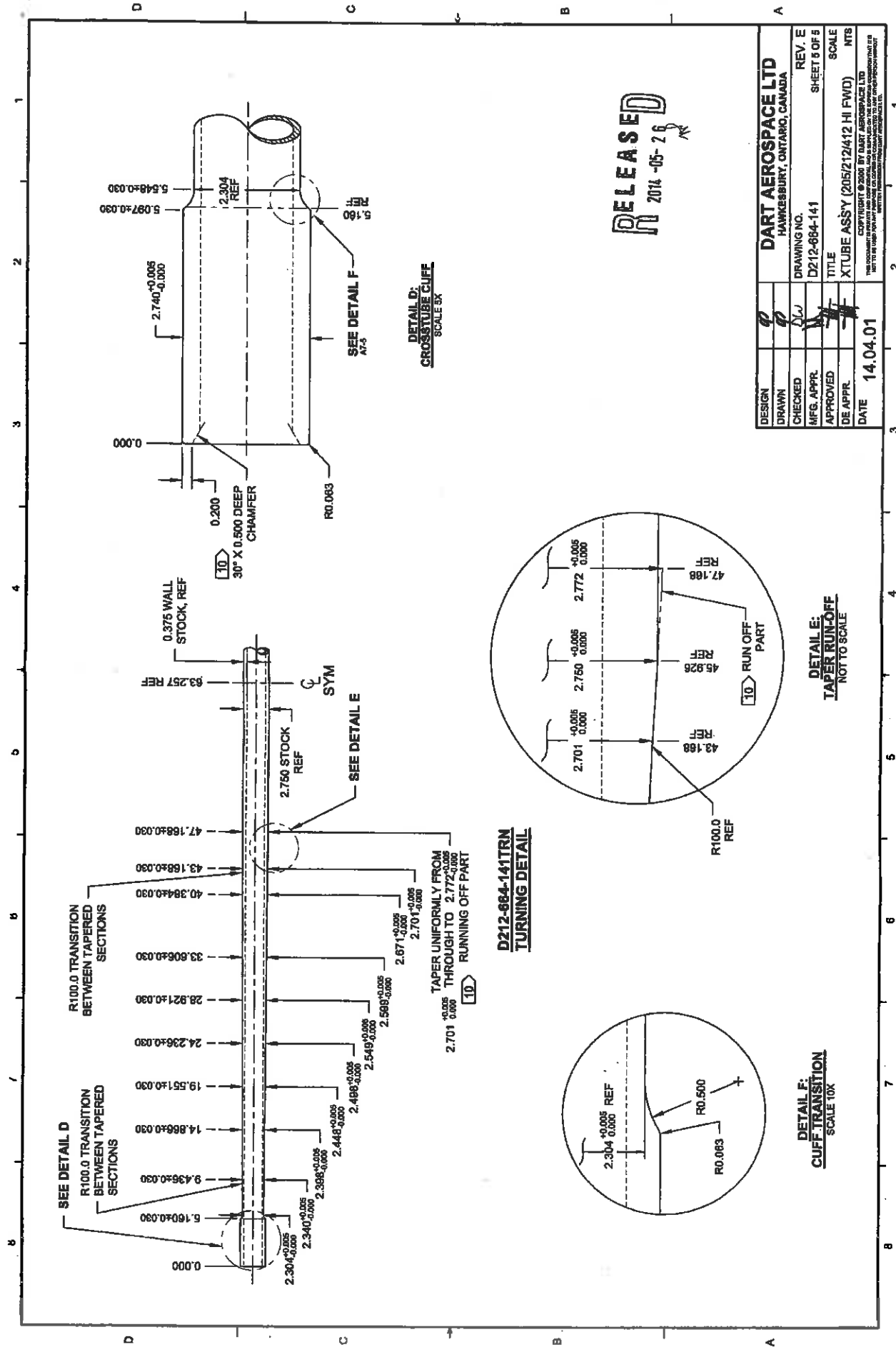
ASSEMBLY

- 13) TO INSTALL D2883-1 / D6017-1 SUPPORT: ABRASE MATING SURFACE OF SUPPORT AND CROSSTUBE WITH 180-GRIT SANDPAPER AND REMOVE RESIDUE WITH MEK (OR EQUIVALENT). APPLY A 0.04" TO 0.07" THICK LAYER OF PROSEAL 880 CLASS B-2 (OR AMS-S-8802 CLASS B-2) SEALANT TO MATING SURFACE OF SUPPORT.
- 14) INSTALL MS21920-25 CLAMPS (OR -26) WITH D3595-063-450 RUBBER CUSHIONS TO SECURE THE SUPPORT ON TOP SIDE OF THE CROSSTUBE. ENSURE CLAMPS ARE ON TOP SIDE OF CROSSTUBE.
- 15) TORQUE CLAMPS 80 TO 100 IN-LB. ENSURE AT LEAST 1.5 THREADS SHOWING IN SAFETY AND THAT NUT HAS NOT BOTTOMED-OUT AFTER TORQUING. PRIOR TO PACKAGING, RE-CHECK TORQUE ON CLAMPS AFTER PROSEAL 880 SEALANT HAS CURED FOR 72 HOURS.

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 17-846 MW
1803-22

RELEASED
2014-05-26
AND

E	ADD -141F. D5017-1 WAS D2883-1 (-141B). PROSEAL WAS MAGNABOND. NOTE 2: ADD INSPECTION WINDOW. NOTE 11: ALLOW 7.2% CRUSH. NOTE 16: ADD 72HR CURE AND RETORQUE FOR PROSEAL. ADD SHEET 3. CLAMPS REVERSED TO PREVENT CHAFING (B7-2, B7-3). BEND HEIGHT TOL. NOW 0.25 WAS 0.13 (C1-3). INCOMP. DEC 07/05/03.	CP	14.04.01
D	REFORMAT/REVISE GENERAL NOTES/PART LIST: REFORMAT/REVISE AND REFORMAT DRAWING TO CURRENT STANDARD (MIL-STD-883C, 141-2) & B8-3). RELOCATED FLAG #8 PER PAR 08-046 (2A-45-3). MOVED TURNING DETAIL & UPDATED TOLERANCE TO SHEET 4.	RF	06.06.30
C	REMOVE -J51 ABRASION STRIP. ADD MAGNABOND 638L CUSHION. REVERSE CLAMPS.	PH	07.03.08
B	ADD HOLES FOR COMPATIBILITY WITH BHTAA SMDTUBES	PH	05.02.04
A	NEW ISSUE	CP	00.12.12
REV.	DESCRIPTION	BY	DATE
DESIGN			
DRAWN			
CHECKED			
MFG. APPR.			
APPROVED			
DE APPR.			
DATE	14.04.01		
DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA			
DRAWING NO. D212-864-141			
REV. E SHEET 1 OF 5			
TITLE XTUBE ASSY (205/212/412 HI FWD) SCALE NTS			
COPYRIGHT © 2006 BY DART AEROSPACE LTD ALL RIGHTS RESERVED. NO PART OF THIS DOCUMENT MAY BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM.			



RELEASED
2014-05-26



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER
PO039922

EMAILED
MAY 24 2018

Supplier: SKY002-VC
Skyservice
6120 Midfield Road
Mississauga
ON
L5P 1B1 Canada
Phone: 905-678-5636
Fax: 905-678-5841

PO No: PO039922
PO Date: 5/16/18
Due Date: 5/24/18
Purchase Order Revision:
Revision Date:
Ship-To Contact: Phone:

Ship To: 1270 Aberdeen Street
Hawkesbury
ON
K6A 1K7 Canada
Phone: 613-632-5200

Via: Ground
Pymt Terms: Net 30
Freight Terms:
Special Comments:

Items

Line Item	Job	Part	Description	Status	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
1	174840	D212-664-101	Fwd Crosstube - High *** WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE*** Liquid Penetrant Inspection as per QSI 038 LPI as per ASTM 1417 Level 2 Attach copy of NDT results to work order	Firmed	5/24/18	1 pcs	0 pcs	1 pcs	\$152.50/pcs	\$152.50
	174838			Firmed	5/24/18	1 pcs	1/0 pcs	1 pcs	\$152.50/pcs	\$152.50
Sub Total:						2	0	2		\$305.00

2	173477	D212-664-201	Aft Crosstube - High ***WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE.*** Issue P/O: LIQUID PENETRANT INSPECTION AS PER QSI 038 OR LPI AS PER ASTM 1417 LEVEL 2	Firmed	5/24/18	1 pcs	0 pcs	1 pcs	\$152.50/pcs	\$152.50
	173479			Firmed	5/24/18	1 pcs	1/0 pcs	1 pcs	\$152.50/pcs	\$152.50
	173480			Firmed	5/24/18	1 pcs	1/0 pcs	1 pcs	\$152.50/pcs	\$152.50
	177311			Firmed	5/24/18	1 pcs	1/0 pcs	1 pcs	\$152.50/pcs	\$152.50
Sub Total:						4	0	4		\$610.00

Grand Total: \$915.00

Order Notes *call 18/05/25*



Work Order Traveler

Sky Service F.B.O. Inc.

10105 Ryan Avenue, Dorval, Quebec, H9P 1A2

TCCA AMO 53-89 / EASA 145.7142 / BDA AMO 385

WO #: MWO36063	Customer: Dart Aerospace Ltd.	Dept: NDT YUL	Reference: PO039922
Descr:	PN:	S/N:	Qty: 1
Make:	Model:	Reg:	A/C S/N:
TSN:	CSN:	TSO:	

Task: UNSCHEDULED	Sequence: 1
-------------------	-------------

Work Required:

CARRY OUT NDT ON:

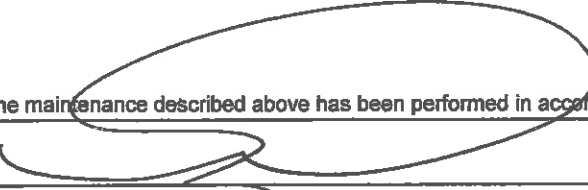
2 FWD CROSSTUBES , P/N# D212-664-101 , J/S# 174838 , 174840

4 AFT CROSSTUBES , P/N# D212-664-201 , J/S# 173477 , 173479 , 173480 , 177311

Action Taken:						Date:	Initial/Stamp:
LPI C/O IAW ASTM E-1417M-16						MAY 17 2018	 
NO CRACK FOUND							
PEN. ZL-56, MPO13600, CLEANER SKC-S MPO13923 , DEV. MPO11715 , UV LIGHT M-20142							

Description	Location	P/N	Qty	Batch	S/N Off	S/N On

I certified that the maintenance described above has been performed in accordance with the applicable standard of airworthiness.

Signature: 	ACA/SCA Stamp 	Date: MAY 17 2018
Name: RAFIK MELIKIAN		



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

Container View (Active) - Master
Unit Containers

Master Unit No	Container No	Part No	Part Name	From Container	Current Location	Quantity
003738	S079091	AN6-35A	Bolt	S017095	ST334	4
003738	S056006	AN6-35A	Bolt		ST333	1
003738	S079090	AN6-30A	Bolt	FM100170-1	ST333	1
003738	S079088	D382011	Placard	s038568	ST034	1
003738	S079087	MS2105-116	Nut	S041154	ST303	6
003738	S079086	WAS1149DC563J	Washer	S045752	ST263	1

Note: Ad hoc query view of Part.dbo.Container where Container.Active = 1.

Plex 6/7/18 3:24 PM dart.quirion.sonia